

II. AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph at page 8, lines 1-24, with the following paragraphs:

The turbine comprises one or more rotor blades 103 connected, via a rotor hub mounted pitch-angle servo (PCU) 102, which is powered through slip rings. While the pitch system is described as utilizing a servo drive located in the wind turbine's hub, it is within the scope of the invention that the pitch system could alternatively utilize a hydraulic, pneumatic, or other type of pitch actuator and the pitch actuator could be located in the nacelle of the turbine rather than in the hub. The hub is mechanically connected to the turbine main-shaft, which transmits the turbine's torque. The turbine shaft is coupled via a gearbox 104 and some suitable coupling device to, in this example, four permanent magnet or wound field synchronous generators 106, 108, 110, 112.

The Electrical Generating Systems Association (AGSA) defines a synchronous generator as follows:

A synchronous alternating-current machine that transforms mechanical power into electric power. NOTES: (1) A synchronous machine is one in which the speed of normal operation is exactly proportional to the frequency of the system to which it is connected. (2) Unless otherwise stated, it is generally understood that a synchronous generator (or motor) has field poles excited with direct current or permanent magnets. Copyright © 1998 by Electrical Generating Systems Association.

It is therefore understood by those skilled in the art that a synchronous generator has field poles excited with direct current or permanent magnets. For a wound field synchronous generator, an exciter is employed to supply excitation to the generator rotor field such that the field is excited with a constant field current. For a permanent magnet synchronous generator, an external exciter is not necessary because the permanent magnets supply the excitation. In this specification, the term "synchronous generator" is used to include a synchronous generator selected from a group consisting of (1) wound field synchronous generators wherein an exciter field is excited with a constant current and (2) permanent magnet synchronous generators.

The generator electrical output is connected to the rectifiers, 114, 116, 118, and 120, ~~which convert~~ ~~shown which converts~~ the electrical power to DC voltage and current. The DC power is then transmitted to the inverters, 136, 138, 140, and 142 ~~as shown~~. The inverter regulates the DC current and by doing so, the generator torque is controlled. The inverter regulates this DC current by synchronizing to the grid and by supplying unity power factor current into the grid system. The control of the inverters is provided by a generator control unit (GCU) 122. The GCU, 122 takes inputs such as grid voltage, DC bus voltage, grid current, and commands such as torque level from a Turbine Control unit (TCU) 132. These commands are converted into pulse-width-modulated (PWM) signals which tell switching devices (such as Insulated-Gate-Bipolar-Transistors, IGBTs, Metal-Oxide-Semiconductor-Field-Effect-Transistors, MOSFETs, , Gate-Turn-Off devices, GTOs, or Silicon-Controlled-Rectifiers or SCRs' etc) in the inverter when to turn on and off.

These switches are controlled in such a way as to maintain regulated DC current. Line filters, 124, 126, 128, 130 are then used to reduce any harmonics that may have been generated by the inverter before passing power to a pad-mount transformer 134.